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The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte WILHELMUS J. DIEPSTRATEN, MICHAEL A. FISCHER and WESLEY D. HARDELL

Appeal No. 2004-0231
Application No. 09/213,970

ON BRIEF

Before KRASS, FLEMING and GROSS, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1-22.

The invention is directed to a context controller, method, and a processor containing a context controller for managing multitasking and is best described by reference to independent claims 1, 8, and 15, reproduced as follows:

1. A context controller for managing multitasking of a plurality of tasks including foreground tasks and background tasks in a processor, comprising:

a time slice instruction counter that counts a number of instructions executed with respect to a given background task; and

a background task controller that cyclicly activates a context corresponding to another background task when said number equals a dynamically-programmable time slice value.

8. A method of managing multitasking of a plurality of tasks including foreground tasks and background tasks in a processor, comprising the steps of:

counting a number of instructions executed with respect to a given background task; and

cyclicly activating a context corresponding to another background task when said number equals a dynamically-programmable time slice value.

15. A processor, comprising:

an instruction decoder that decodes instructions received into said processor and corresponding to a plurality of tasks which includes foreground tasks and background tasks;

a plurality of register sets, corresponding to said plurality of tasks, that contain operands to be manipulated;

an execution core, coupled to said instruction decoder and said plurality of register sets, that executes instructions corresponding to an active one of said plurality of tasks to manipulate ones of said operands; and

a context controller, coupled to said instruction decoder and said execution core, that manages multitasking with respect to said plurality of tasks, including:

a time slice instruction counter that counts a number of instructions executed with respect to a given background task; and

a background task controller that cyclicly activates a context corresponding to another background task when said number equals a dynamically-programmable time slice value.

The examiner relies on the following references:

Seibert et al. (Seibert)	5,239,652	Aug. 24, 1993
Vaitzblit et al. (Vaitzblit)	5,528,513	Jun. 18, 1996
Motomura	5,713,038	Jan. 27, 1998
Dummermuth	6,009,454	Dec. 28, 1999 (filed Nov. 10, 1997)
Carmon	6,085,218	Jul. 4, 2000 (filed on Jul. 13, 1994)

Claims 1, 4, 5, 7, 8, 11, 12, and 14 stand rejected under 35 U.S.C. 103(a) as unpatentable over Vaitzblit et al. (Vaitzblit) in view of Dummermuth. Claims 2, 6, 9, and 13 stand rejected under 35 U.S.C. 103(a) as unpatentable over Vaitzblit and Dummermuth as applied to claims 1 and 8 and further in view of Carmon. Claims 3 and 10 stand rejected under 35 U.S.C. 103(a) as unpatentable over Vaitzblit and Dummermuth as applied to claims 1 and 8 and further in view of Seibert et al. (Seibert). Claims 15, 18, 19, 21, and 22 stand rejected under 35 U.S.C. 103(a) as unpatentable over Vaitzblit and Dummermuth as applied to claims 1, 4, 7, 8, 11, and 14 and further in view of Motomura. Claim 17 stands rejected under 35 U.S.C. 103(a) as unpatentable

over Vaitzblit, Dummermuth, and Motomura as applied to claim 15 and further in view of Seibert. Claims 16 and 20 stands rejected under 35 U.S.C. 103(a) as unpatentable over Vaitzblit, Dummermuth, and Motomura as applied to claim 15 and further in view of Carmon.

Reference is made to the briefs[1] and answer[2] for the respective positions of the appellants and the examiner.

Opinion

In rejecting claims under 35 U.S.C. 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teachings, suggestions or implications in the prior art as a whole or knowledge generally available to one having ordinary skill in the

[1] Appeal Brief filed November 18, 2002 and Reply Brief filed on March 26, 2003.

[2] Examiner's Answer January 27, 2003

art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellant have been considered in this decision. Arguments which appellant could have made but chose not to make in the brief have not been considered and are deemed to be waived [see 37 CFR 1.192 (a)].

With regard to independent claims 1 and 8, it is the examiner's position that Vaitzblit teaches "a foreground controller... for activating the task according to priority (see abstract) and in response to events (see abstract, particularly lines 8-9, invoked by timer interrupt for each tasks is an event), and a background controller operating in a cyclical manner (col. 5, lines 15-17 and figure 1, 100)."[3] The examiner then relies on Dummermuth to teach a controller that "cyclically activates context according to the number on instruction executed (col. 7, lines 23-34; and col. 3, lines 19-25) and a counter that counts the number of executed [instructions] with respect to a given task (col. 7, lines 23-35; col. 3, lines 40-45)."[4] The examiner's motivation to combine the two references is that it would have been obvious to one of ordinary skill in the art to apply the teaching of Dummermuth to the background task in order "to gain the benefit of precise allocation of processor resources according to how many of instructions are to be executed in each task as opposed to how much time."[5]

However, we do not find a disclosure, teaching, or suggestion of a dynamically-programmable time slice value in the

[3] Examiner's Answer page 4, lines 1-4.
[4] Id. at lines 5-7.
[5] Id. at lines 15-17.

references or in the combination derived therefrom. We therefore conclude that the examiner has not met the burden for presenting a prima facie case of obviousness.

The Appellants argue that neither Vaitzblit nor Dummermuth discloses the limitation found in the claims, a "controller that cyclicly activates a context corresponding to another background task when said number equals a *dynamically-programmable time slice value*."[6] Dynamically-programmable is defined as a slice value that "remains fully programmable during execution of the background task."[7] Accordingly, the Appellants argue that Vaitzblit and Dummermuth are not properly applied under 35 U.S.C. 103.

We agree.

In response to the Appellants' argument that neither Vaitzblit nor Dummermuth suggests or discloses a dynamically-programmable time slice value, the examiner asserts that the Appellants are attacking the references individually and not the combination presented in the rejection. The examiner, relying on In re Keller, states that the argument does not overcome the rejection.

[6] Claims 1 and 15. Claim 8 contains the same limitation defined in a method step.
[7] Page 9, lines 15-16, of the Specification.

We disagree.

The examiner is correct in that Keller holds that arguments directed to the references individually do not overcome a rejection based on a combination. However, a combination presented by the examiner must contain all the limitations found in the claims. Here, the combination fails to meet the limitations in the claims or render the invention obvious because neither Vaitzblit nor Dummermuth teaches or suggests a dynamically-programmable time slice as defined by the Appellants.

In regards to the examiner's argument that the Appellants' "patentable subject matter is sharing a piece of hardware, the underlying principle of multitasking, having multiple tasks or processes appear to be running simultaneously on the same hardware [,]"[8] we find that the Appellants' claims require management of multitasking in the processor in which the time slice value remains fully programmable during execution of the background task, a dynamically-programmable time slice. The inclusion of the dynamically-programmable time slice limitation renders the claimed inventions nonobvious *in view of Vaitzblit*

[8] Page 10, lines 17-20, of the Examiner's Answer

and Dummermuth. Our decision only pertains to the rejection at issue and in no way indicates patentability.

We will not sustain the rejection of claims 1 and 8. Also, we will not sustain the rejection of dependent claims 2-7 and 9-14.

Since independent claim 15 recites the use of a dynamically-programmable time slice we will not sustain the rejection of claims 15-22.

The examiner's decision rejecting claims 1-22 under 35 U.S.C. 103 is reversed.

REVERSED

ERROL A. KRASS)
Administrative Patent Judge)
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MICHAEL R. FLEMING)BOARD OF PATENT
Administrative Patent Judge) APPEALS AND
)INTERFERENCES
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ANITA PELLMAN GROSS)
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